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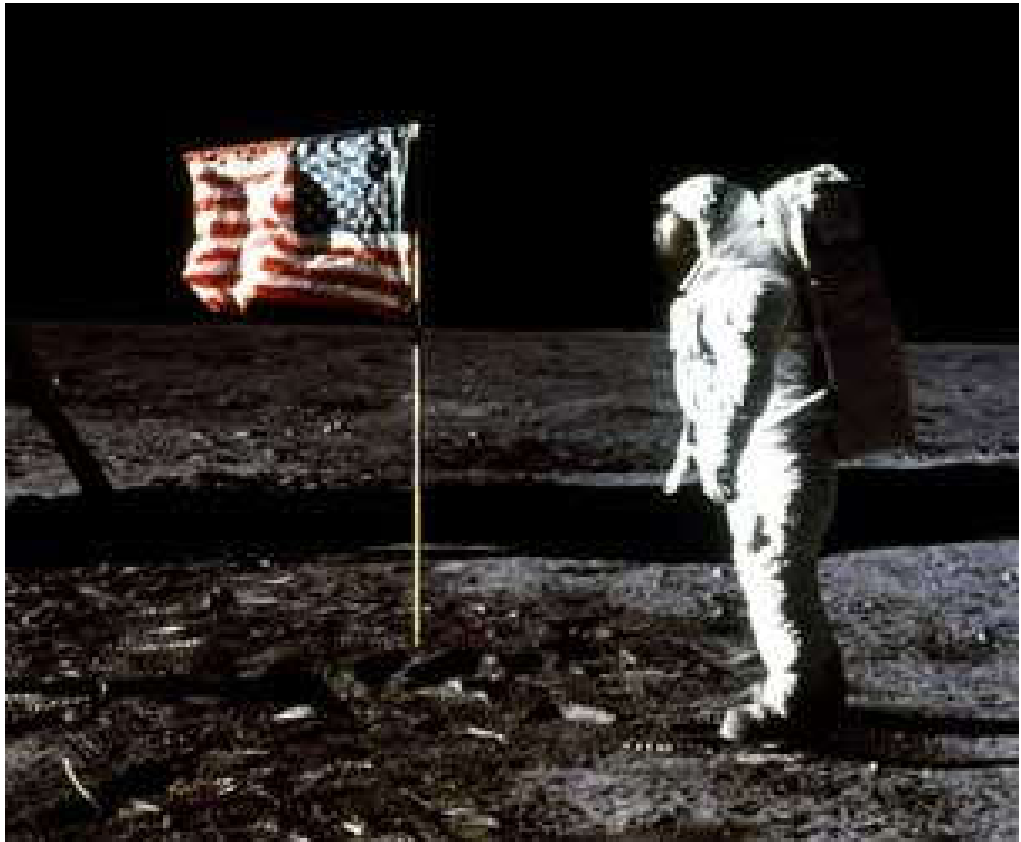
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NASA Catholics Mark 50 Years

NASA began operations 50 years ago this month, and several Catholics who came to work at the agency saw their work in space exploration as part of their life's vocation to go to heaven.

Tim Drake

Oct. 1, 1958, the National Aeronautics and Space Administration — better known as NASA — began operations. Several Catholics who came to work at the new administration saw their work in space exploration as part of their life's vocation to go to heaven.

In recent years, space shuttle astronauts Thomas Jones, Kevin Chilton, Sid Gutierrez and Bob Cabana have carried on the tradition.

Jones is one of few who have spoken openly about his faith. He authored the 2006 book, *Sky Walking: An Astronaut's Memoir*.

As one of six crew members aboard the space shuttle *Endeavour*, Jones spent spare time reading the Bible, praying his Rosary, and even received the Eucharist while in space.

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In a 2004 article, Jones recounted receiving the Eucharist on the shuttle's flight deck.

"Kevin shared the body of Christ with Sid and me, and we floated weightless on the flight deck, grateful for this moment of comradeship and communion with Christ," wrote Jones. "Our silent reflection was interrupted by a sudden burst of dazzling white light. The sun had risen just as we finished Communion, and now its pure radiance streamed through *Endeavour's* cockpit windows and bathed us in its warmth ... I rolled away from my crewmates, unable to stem the tears evoked by that singular sunrise."

The Catholic character of astronauts has persevered, despite the fact that NASA does not provide a Catholic chaplain.

"They call on people like us," said Msgr. Thomas Bevan, pastor of St. Patrick's Catholic Church in Cumberland, Md.

Msgr. Bevan served as Jones' childhood pastor and remains a friend. When Jones was preparing for his first space flight, he invited Msgr. Bevan down to the launch. There, on the beach near the launch pad at Cape Canaveral, Msgr. Bevan led a prayer service for the astronauts and their families.

He said that the service seemed to bring a great deal of comfort to Jones and his wife.

"Tom's wife was scared to death. She got sick to her stomach. That's what the spouses live with," said Msgr. Bevan. "The prayer service helped to place it in context."

"I went away from the prayer service with a lot of my worries lifted away," agreed Jones.

Several other priests have served this "space flock."

Between 1977 and 1996, Father Tom Butler, a Carmelite priest, served NASA employees and astronauts at St. Bernadette's Church in Houston. After the space shuttle *Challenger* disaster in 1986, Father Butler organized an ecumenical service with other ministers in town.

Father Butler made astronaut and parishioner Bob Cabana an extraordinary minister of holy Communion prior to his shuttle flight.

"After that, if a parishioner was going up, I would make them a Eucharistic minister," said Father Butler.

The Early Days

From the very beginning, Catholics played key roles at NASA.

That includes individuals such as Gene Kranz, Glynn Lunney, Ronald Richard, and astronauts Bill Anders and Eugene Cernan.



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One of the earliest to become involved was engineer and designer Max Faget. A former submariner in the U.S. Navy, Faget joined Virginia's Langley Research Center as a research scientist. He had already worked on the design of the X-15 supersonic aircraft. In 1958, Faget became one of the original 35 engineers who formed the Space Task Group (that later became the Johnson Space Center). He was one of the instrumental members of the team that created the *Mercury*, *Gemini* and *Apollo* spacecrafts.

He even filed a patent for a space shuttle design in 1972.

"At the time, the rocket bodies had a sharper, pointier body," said former flight director Lunney. "That became untenable because of the heat that would come at it. Faget was one of those who flipped the intuition around and came up with the idea of the blunt body. It was a breakthrough."

Another early contributor was Ronald Richard, who worked at the Jet Propulsion Laboratory between 1962 and 1966. During his time there, Richard worked on the *Mariner* series of spacecraft, designed to explore the inner solar system to obtain information about Mercury, Venus and Mars.

Richard now serves as a part-time tutor and member of the board of governors at Thomas Aquinas College in Santa Paula, Calif.

Two Catholics, Gene Kranz and Glynn Lunney, were deeply involved in saving *Apollo 13*, which experienced an explosion on board, preventing it from landing on the moon — Kranz for his role in directing the rescue effort, and Lunney for developing a plan to save the astronauts.

Kranz joined the NASA Space Task Group at Langley. He was assigned as a Mission Control procedures officer. He was put in charge of preparing Ed Harris to portray him in the movie *Apollo 13*.

Kranz spoke of the influence his Catholic education had on him and the way he did business.

"After the *Apollo 1* fire, we wrote out a values statement that talked about the characteristics for professional ethics," said Kranz, referring to the 1967 disaster that claimed the lives of three astronauts. "If you read behind the lines, you'll see a lot of influence from the Ursulines, the Oblates and the Jesuits who taught me."

That values statement was known as the "Foundations of Mission Control," and it became a seminal document guiding those working in operations. It included the importance of qualities such as discipline, competence and teamwork.

For example, the description under the heading "discipline" read: "being able to follow as well as lead, knowing we must master ourselves before we can master our task."

While they're not sure that they could articulate it at the time, both Kranz and Lunney say that their faith guided them in the important work that they were doing.

"During countdowns, when it got close, it was always time to say an Our Father," said Lunney. "It was always private."

Church Contribution

The science of astronomy owes a great deal to the Church. The subject was one of the original seven subjects taught at the medieval universities founded by the Church. Polish cleric Nicolaus Copernicus' heliocentric hypothesis shaped how we see the universe. His findings formed the basis of the Gregorian calendar. Direct support for astronomy goes back to 1582, when Pope Gregory XIII asked Jesuit mathematician Christopher Clavius to help reform the calendar.

The Church-supported stargazing that began in the 1500s has continued to the present day, not only in Rome, but also in the United States.

The Vatican Observatory, headquartered at the pope's summer residence in Castel Gandolfo, is one of the world's oldest astronomical research institutions. There's also a research branch at the University of Arizona in Tucson. Its astronomers have recorded more than 500,000 star positions. "The Vatican Observatory has certainly had an active collaborative relationship with NASA and many scientists who are supported by NASA," said Brother Guy Consolmagno, curator of the Vatican meteorite collection. "This can range from using our telescopes to support NASA missions by, for example, observing faint objects that are the target or possible target of spacecraft missions, or observing one-of-a-kind events like transits and occultations [when a smaller astronomical body passes behind a larger astronomical body] that can only be seen from certain parts of the world, to making telescope time available at the Vatican Advanced Technology Telescope [located at Mt. Graham International Observatory in Arizona] to scientists who are supported by NASA grants, working at NASA centers, or working on NASA-supported projects."

Brother Consolmagno said many scientists at NASA's Goddard Space Flight Center are supported through grants from the physics department of The Catholic University of America.

The Vatican's meteorite collection is one of the Church's treasures. Originally, the collection had about 1,000 samples that were donated by various people over 100 years ago. The collection now has about 1,150 pieces of more than 500 different meteorites.

"The samples are being well put to use with exchanges and interactions with others who study meteorites," said Father Christopher Corbally, vice director of the Vatican Observatory Research Group. "Scientists in Britain, France, Italy and the U.S. have studied them, and they have contributed much to our understanding of how planets were built up out of the material that was floating around the solar system."

Finding God Out There

If the Church did much to inspire modern astronomical research, the Catholic faith does much to inspire wonder in the men and women who work at NASA.

As Thomas Jones put it, "The Vatican Observatory, and those who work there, are on the cutting edge of cosmology. When we look at the universe, we're seeing not only the natural world revealed through science, but also as it was created by God. We not only have this human curiosity to explore the universe, but also the receptivity to appreciate the beauty of it. That's a human trait that's part of your soul."

And, when man first reached the moon, the Catholics at NASA understood it was a moment of huge importance.

Kranz told the story of the words he offered to his colleagues on a private communications loop when they were going to the moon for the first time.

"I told my communication officers that from the day of our birth, we were destined to be in this room on this day," recalled Kranz. "All my life I've felt that the Creator had a very special role for me that I really didn't have too much to do with."

Tim Drake is based in

St. Joseph, Minnesota.

EDITORS NOTE: 'That's one small step for man, one giant leap for mankind,' said Neil Armstrong. It was the great success of NASA, founded 11 years before. Today we honor the

Catholics who were integral to NASA — and the Vatican astronomers who made its work possible.

The Church And Space

The science of astronomy owes a lot to the Church.

- It was one of the original seven subjects taught at the medieval universities founded by the Church.
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- Direct support for astronomy goes back to 1582, when Pope Gregory XIII asked Jesuit mathematician Christopher Clavius to help reform the calendar.
- The Vatican Observatory, headquartered at the pope's summer residence in Castel Gandolfo outside of Rome, is one of the world's oldest astronomical research institutions.
- Father Christopher Scheiner (1575-1650) was the first astronomer to study the sun systematically. Scheiner's halo is named after him.
- Father Angelo Secchi (1818-1878) surveyed over 4,000 stars. His four-fold division of spectral types is still used today.
- Fathers Francesco Maria Grimaldi (1613-1663) and Giambattista Riccioli (1598-1671) made an early selenograph, a detailed map of the moon's surface.

3, 2, 1 ... LIFT OFF! On Oct. 1, 1958, the day NASA opened its operations, the Register was 31 years old. On Oct. 1, 2008, we planned to launch our own changes online at NCRegister.com. We'll still give you e-mailable versions of the stories you read here and searchable archives, but now we'll also give you each day's Catholic headlines in our news blog.

SPACEMEN.

NASA Catholics include (l-r) Gene Kranz, Thomas Jones, Kevin Chilton and Bob Cabana.

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